

(±)-Carquinostatin A の全合成と (R)-(-)- 及び (S)-(+)-carquinostatin A の不斉全合成研究

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Total synthesis of (±)-Carquinostatin A, and Asymmetric Total Synthesis of (R)-(-)-Carquinostatin A and (S)-(+)-Carquinostatin A

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ABSTRACT: Total syntheses of (±)-carquinostatin A, and (R)-(-)-carquinostatin A together with its enantiomer, (S)-(+)-carquinostatin A, possessing radical scavenging activity, were newly achieved. (±)-Carquinostatin A was synthesized from 1-acetonyl-6-bromo-3-ethoxy-2-methylcarbazole, which was derived from the known 1-acetonyl-3-ethoxy-2-methylcarbazole. Introduction of a prenyl group at the 6-position of carbazole was successful in two steps. For the synthesis of (R)-(-)-carquinostatin A and (S)-(+)-carquinostatin A, (R)-(-)-1-(2-acetoxypropyl)-3-hydroxy-2-methoxycarbazole and (S)-(+)-3-hydroxy-1-(2-hydroxypropyl)-2-methylcarbazole, prepared by Lipase-QLM catalyzed enantioselective transesterification of 3-hydroxy-1-(2-hydroxypropyl)-2-methylcarbazole, were used as chiral starting materials.

抄録 Carquinostatin A は、瀬戸らにより *Streptomyces exfoliates* 2419-SVT2 から単離され、抗酸化作用を有する多置換カルバゾールアルカロイドである。(±)-Carquinostatin A は7工程で全合成を達成した。(R)-(-)-carquinostatin A 及び (S)-(+)-carquinostatin A のエナンチオ選択的完全合成は、Lipase-QLM による 3-hydroxy-1-(2-hydroxypropyl)-2-methylcarbazole のエナンチオ選択的エステル交換反応により対応する (R)-(-)-1-(2-acetoxypropyl)-3-hydroxy-2-methoxycarbazole 及び (S)-(+)-3-hydroxy-1-(2-hydroxypropyl)-2-methylcarbazole を得ることにより達成した。